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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,261

08/23/2006

Josephus Christiaan Maria Hendrix

NL 040263

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7590

03/04/2011

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

SNYDER, ZACHARY J

ART UNIT

PAPER NUMBER

2889

NOTIFICATION DATE

DELIVERY MODE

03/04/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/598,261	Applicant(s) HENDRIX ET AL.	
	Examiner Zachary Snyder	Art Unit 2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 8/26/2010 have been fully considered but they are not persuasive.

Applicant argues that the specification has support for the following:

“the molar percentage ratio $\text{CaI}_2/(\text{NaI} + \text{TII} + \text{CaI}_2 + \text{XI}_3)$ is greater than 45%” (recited in claim 1); “the molar percentage ratio $\text{CaI}_2/(\text{NaI} + \text{TII} + \text{CaI}_2 + \text{XI}_3)$ is less than 90%” (recited in claim 8); “the molar percentage ratio $\text{CaI}_2/(\text{NaI} + \text{TII} + \text{CaI}_2 + \text{XI}_3)$ is less than 80%” (recited claims 9-10).

Applicant points to the specification which states that the percentages lie between 20 and 90%, in particular between 35 and 85%, more in particular between 45 and 80%. Therefore a molar percentage ratio that is between 45 and 80% is a molar percentage that is greater than 45%.

However, molar percentages greater than 45% include those between 80 and 100% which is not included in the range given by the Applicant of between 45 and 80%. The Applicant has established an upward bound of 90% meaning the specification has not support for percentages greater than 45% because that includes percentages between 90 and 100%.

Additionally, Applicant has established a lower bounds of 20% in the specification. Therefore, the limitations reciting less than 90% and less than 90% include ranges between 0 and 20% which are not supported by the specification.

Specification

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1. The amendment filed 03/04/2010 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: “the molar percentage ratio $\text{CaI}_2/(\text{NaI} + \text{TII} + \text{CaI}_2 + \text{XI}_3)$ is greater than 45%” (recited in claim 1); “the molar percentage ratio $\text{CaI}_2/(\text{NaI} + \text{TII} + \text{CaI}_2 + \text{XI}_3)$ is less than 90%” (recited in claim 8); “the molar percentage ratio $\text{CaI}_2/(\text{NaI} + \text{TII} + \text{CaI}_2 + \text{XI}_3)$ is less than 80%” (recited claims 9-10).

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 4, and 8-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 claims that the molar percentage ratio $\text{CaI}_2/(\text{NaI} + \text{TII} + \text{CaI}_2 + \text{XI}_3)$ is greater than 45%. The specification does not support this claimed limitation but rather that the molar percentage ratio $\text{CaI}_2/(\text{NaI} + \text{TII} + \text{CaI}_2 + \text{XI}_3)$ lies between 20 and 90%, in particular between 35 and 85%, more in particular between 45 and 80%.

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Claim 8 claims that the molar percentage ratio $\text{CaI2}/(\text{NaI} + \text{TII} + \text{CaI2} + \text{XI3})$ is less than 90%. The specification does not support this claimed limitation but rather that the molar percentage ratio $\text{CaI2}/(\text{NaI} + \text{TII} + \text{CaI2} + \text{CeI3})$ lies between 20 and 90%, in particular between 35 and 85%, more in particular between 45 and 80%.

Claims 9 and 10 claim that the molar percentage ratio $\text{CaI2}/(\text{NaI} + \text{TII} + \text{CaI2} + \text{XI3})$ is less than 80%. The specification does not support this claimed limitation but rather that the molar percentage ratio $\text{CaI2}/(\text{NaI} + \text{TII} + \text{CaI2} + \text{CeI3})$ lies between 20 and 90%, in particular between 35 and 85%, more in particular between 45 and 80%.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 11-15, 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. PG Publication 2003/0102808 A1 to Dakin et al.

In regard to claim 1, Dakin discloses in figure 1 a lamp comprising:

A discharge vessel (discharge chamber 50);

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An outer envelope (shown in figure 1, unlabelled) surrounding the discharge vessel and having a ceramic wall which encloses a discharge space filled with a filling comprising an inert gas, and an ionizable salt (fill includes an inert gas and a salt, paragraph 24); and

Two electrodes (electrodes 52, 54, paragraph 16) arranged in the discharge space having tops with a mutual interspacing so as to define a discharge path between the tips;

Said ionizable salt consisting of NaI, TII, CaI₂, and XI₃, wherein X is selected from the group consisting of rare earth metals (table in paragraph 24, RE halide, Na halide, Tl halide, and alkaline earth metal halide, Cs halide can have molar fraction of 0%, the alkaline earth metal can be calcium, paragraph 26) and a molar percentage ratio $\text{CaI}_2/(\text{NaI} + \text{TII} + \text{CaI}_2 + \text{CeI}_3)$ is greater than 45% (using the parameters in paragraph 24, a percentage of 45% is made by the choices of NaI at 45%, TII at 5%, CaI₂ at 45%, and CeI₃ at 5%).

Dakin does not explicitly disclose greater than 45% for the molar percentage ratio.

However, at the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Dakin before him or her that the molar percentage ratio could be greater than 45%. Typically, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical (MPEP 2144.05 IIA). It would be obvious to one of ordinary skill in the art because the normal desire of scientists or artisans is to improve upon what is already generally known which provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages. The difference between the desire range and the range of the prior art is only an infinitesimally small, but finite number.

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In regard to claim 2, Dakin discloses the limitations of claim 1 and that X is selected from the group consisting of Pr, Lu, and Nd (the rare earth is selected from neodymium, paragraph 24).

In regard to claim 3, Dakin discloses the limitations of claim 1, and that X is Ce and wherein the molar percentage ratio $\text{CeI3}/(\text{NaI} + \text{TII} + \text{CaI2} + \text{CeI3})$ lies between 0.5 and 7% (using the parameters in paragraph 24, this relationship is met by the choices of NaI at 45%, TII at 5%, CaI2 at 45%, and CeI3 at 5%).

In regard to claim 4, Dakin discloses the limitations of claim 1 and that X is Ce and wherein a molar percentage ratio $\text{CaI2}/(\text{NaI} + \text{TII} + \text{CaI2} + \text{CeI3})$ is less than 90% (using the parameters in paragraph 24, this relationship is met by the choices of NaI at 45%, TII at 5%, CaI2 at 45%, and CeI3 at 5%).

In regard to claims 5, 11, and 12, Dakin discloses the limitations of claims 1, 3, and 4. However Dakin does not specifically disclose that the amount of NaI, TII, CaI2 and XI3 lies between 0.025 and 0.3 g/cm³.

However, at the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Dakin before him or her, to modify the salt composition of Dakin so that the amount of NaI, TII, CaI2 and XI3 lies between 0.025 and 0.3 g/cm³ in order to produce the smallest functional lamp with the improved lifetime afford by Dakin. Dakin teaches in paragraph 29 that the lamp contains 50 mg of salt so a lamp with a volume between .167 and 2

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cc would read on the claimed limitations. One of ordinary skill in the art would realize that producing a lamp with a 2 cc internal volume would result in a greater commercial application due to the smaller size.

In regard to claims 6, 13, 14, and 15, Dakin discloses the limitations of claims 1, 2, 3, and 4 and that the filling comprises Hg (mercury fill, paragraph 24).

In regard to claim 8, Dakin discloses the limitations of claim 3 and that a molar percentage ratio $\text{CaI2}/(\text{NaI} + \text{TII} + \text{CaI2} + \text{CeI3})$ is less than 90% (using the parameters in paragraph 24, this relationship is met by the choices of NaI at 45%, TII at 5%, CaI2 at 45%, and CeI3 at 5%).

In regard to claim 9, Dakin discloses the limitations of claim 3 and that a molar percentage ratio $\text{CaI2}/(\text{NaI} + \text{TII} + \text{CaI2} + \text{CeI3})$ is less than 80% (using the parameters in paragraph 24, this relationship is met by the choices of NaI at 45%, TII at 5%, CaI2 at 45%, and CeI3 at 5%).

In regard to claim 10, Dakin discloses the limitations of claim 4 and that a molar percentage ratio $\text{CaI2}/(\text{NaI} + \text{TII} + \text{CaI2} + \text{CeI3})$ is less than 80% (using the parameters in paragraph 24, this relationship is met by the choices of NaI at 45%, TII at 5%, CaI2 at 45%, and CeI3 at 5%).

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In regard to claims 17, 18, 19, and 21, Dakin discloses the limitations of claims 1, 3, 4, and 10.

The Examiner note that the limitation in claims 17, 18, 19, and 21, “wherein a rated power of the lamp is 30W” is an intended use type limitation. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention over the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Claims 1, 5-6, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. PG Publication 2002/0185973 A1 to Jackson et al.

In regard to claim 1, Jackson discloses in figure 8, a lamp comprising:

A discharge vessel (arc tube 20);

An outer envelope (outer bulb 10) surrounding the discharge vessel and having a ceramic wall which encloses a discharge space filled with a filling comprising an inert gas, and an ionizable salt (a mixture of noble gases and a salt mixture, paragraph 44); and

Two electrodes (electrodes shown in figure 9) arranged in the discharge space having tops with a mutual interspacing so as to define a discharge path between the tips (shown in figure 9);

Said ionizable salt consisting of NaI, TII, CaI₂, and XI₃, wherein X is selected from the group consisting of rare earth metals (salt mixture composed of sodium iodide, calcium iodide, thallium iodide, and several rare earth iodides, paragraph 44) a molar percentage ratio $\text{CaI}_2 / (\text{NaI} + \text{TII} + \text{CaI}_2 + \text{CeI}_3)$ is greater than 45% (using the parameters in paragraph 40, this relationship

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is 43% by the choices of NaI at 14%, TII at 7%, CaI₂ at 43%, DyI₃ at 12%, HoI at 12%, and TmI₃ at 12%).

Jackson does not explicitly disclose greater than 45% for the molar percentage ratio.

However, at the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Jackson before him or her that the molar percentage ratio could be greater than 45%. Typically, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical (MPEP 2144.05 IIA). It would be obvious to one of ordinary skill in the art because the normal desire of scientists or artisans is to improve upon what is already generally known which provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.

In regard to claim 5, Jackson discloses the limitations of claim 1 and that the amount of NaI, TII, CaI₂ and XI₃ lies between 0.025 and 0.3 g/cm³ (salt mixture composed of sodium iodide, calcium iodide, thallium iodide, and several rare earth iodides, paragraph 44, there are 10-50 mg of the salt, paragraph 72, and the inner dimensions of the lamp are 7.4 mm diameter and 26 mm length, paragraph 40).

In regard to claims 6 and 16, Jackson discloses the limitations of claims 1 and 5 and that the filling comprises Hg (metallic mercury, paragraph 44).

In regard to claim 20, Dakin discloses the limitations of claim 5.

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The Examiner notes that the limitation in claim 20, “wherein a rated power of the lamp is 30W” is an intended use type limitation. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention over the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary Snyder whose telephone number is (571)270-5291. The examiner can normally be reached on Monday through Friday, 9:30AM to 6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Toan Ton can be reached on (571)272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Toan Ton/

/Zachary Snyder/

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Supervisory Patent Examiner, Art Unit 2889

Examiner, Art Unit 2889